Frito-Lay, Division of PepsiCo

WI State Energy Office, Wisconsin Clean Cities
Natural Gas for Transportation Roundtable
January 29, 2013

PepsiCo's Performance with Purpose…

Performance with Purpose

- Company Sustainability Vision
- Projects and Results
- Fleet Operations
- CNG

Our Sustainability Vision:
To Become a Preeminent Green Company

Frito-Lay Fundamentals
EXECUTE with EXCELLENCE

Sustainability Strategy

- 1 Bold Goal
- 3 Targeted Natural Assets
- 3 Headline Objectives

Goal
Leave No Trace

Strategy
Conserve And Preserve
The Earth's Natural Assets

FL's Eco-Footprint
Water Energy Land

Strategic Objectives

- Perpetually reduce consumption of non-renewable natural assets
- Step function change in consumer loyalty and customer intimacy
- Embed sustainability within the cultural DNA of Frito-Lay

PepsiCo Confidential

Our Strategic Scope Includes Our Entire Operating Footprint, Extending to Every Partner to Whom We "Write a Check"

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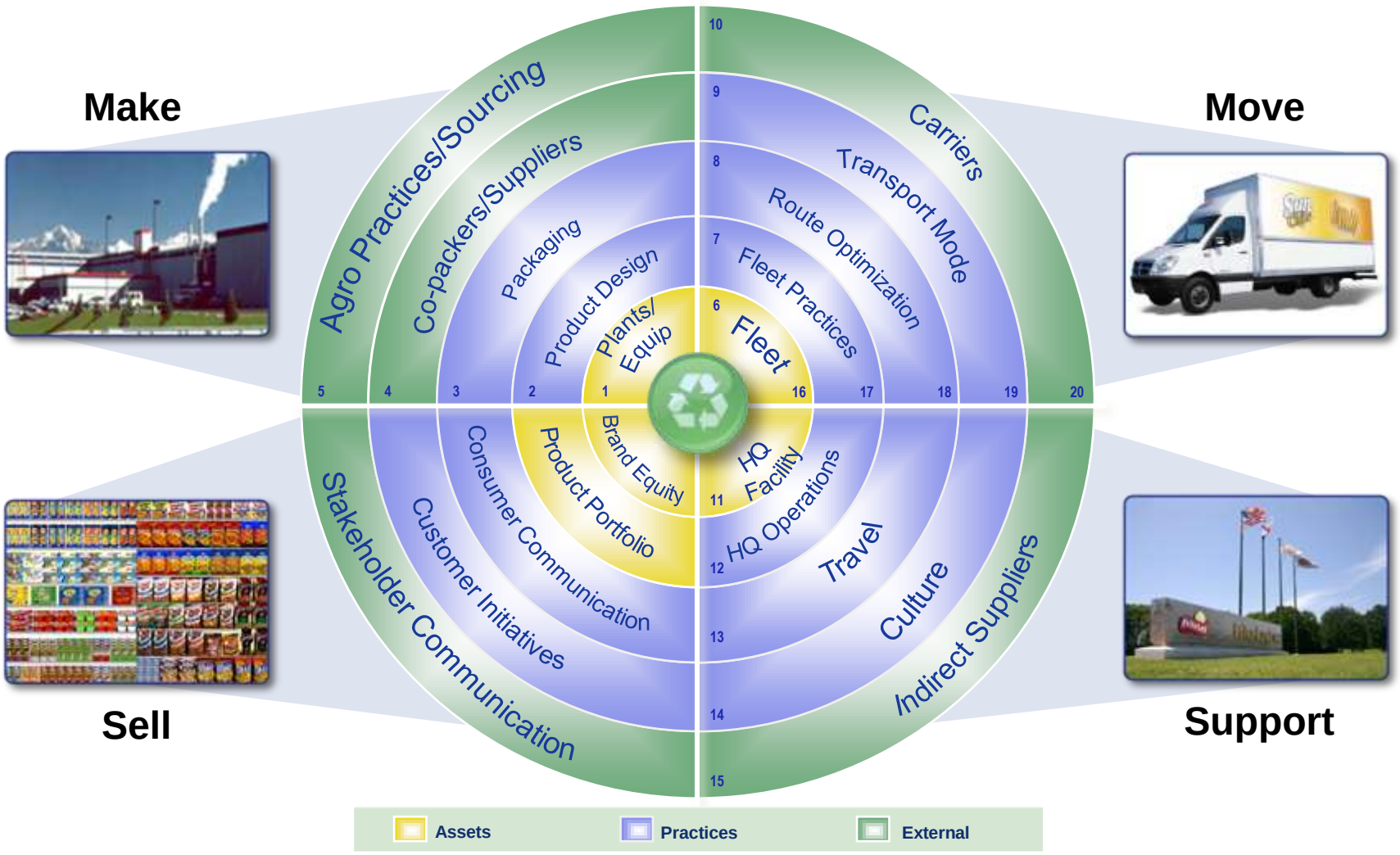

SunChips… Powered by the Energy of the Sun

Modesto Solar Field…
April, 2008 Earth Day

PC Stack Heat Recovery….
Building Heat and Hot Water Production

Beloit and FF in 2009

Net Zero and Conventional Technologies will be Implemented System-Wide as Rates, Inflation and Business Conditions Develop… Beloit Example

Beloit

Wind Turbine Power Purchase Agreement

Low Pressure Biomass Boiler

Energy… Efficiency and Recovery

Ten Years of Continuous Improvement and Significant Productivity

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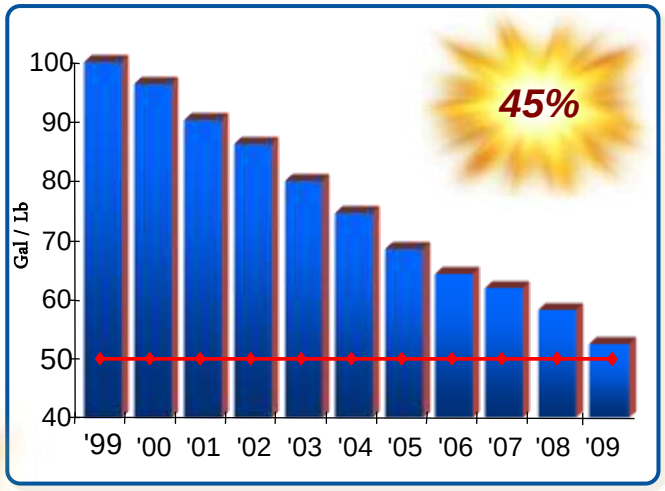
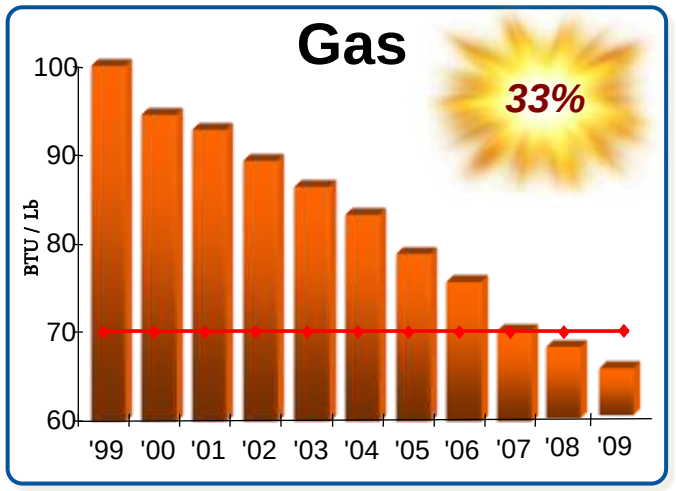
Water

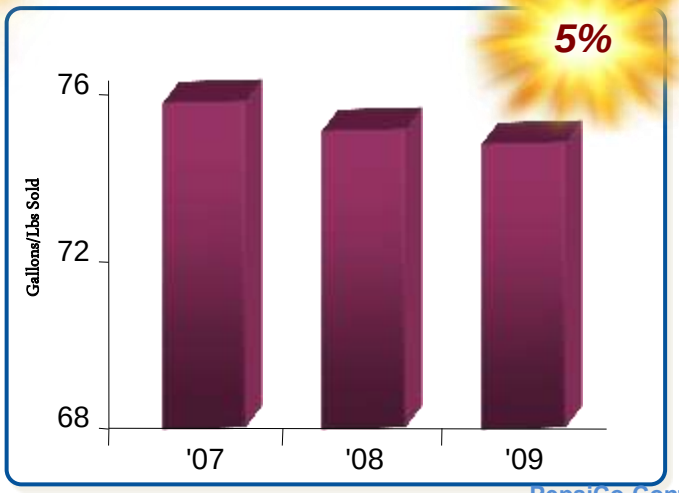


Natural Gas

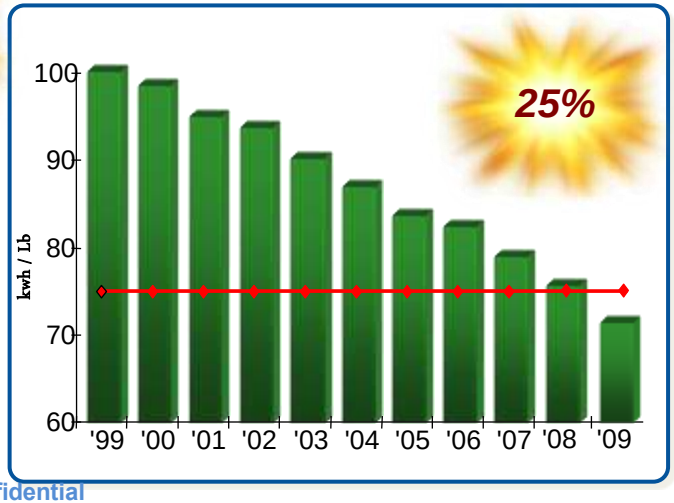


>$70MM

Fuel



Electricity



Oil is more expensive than we think…

Military – Middle East

Spills

Refinery Fires

Pollution/Smog/GHGs

7th Largest Fleet in North America…

World Class Fleet

Reliability

Provide safe, dependable vehicles for all our associates and the customers we share the roads with everyday

Sustainability

Preserve the environment and reduce green house gases while becoming one of the most fuel efficient fleets in America

Capability

Build a powerful team of fleet professionals who continue to provide

World Class Service

We will be the most fuel-efficient fleet in America through People, Process, & Technology…

Frito-Lay Fundamentals
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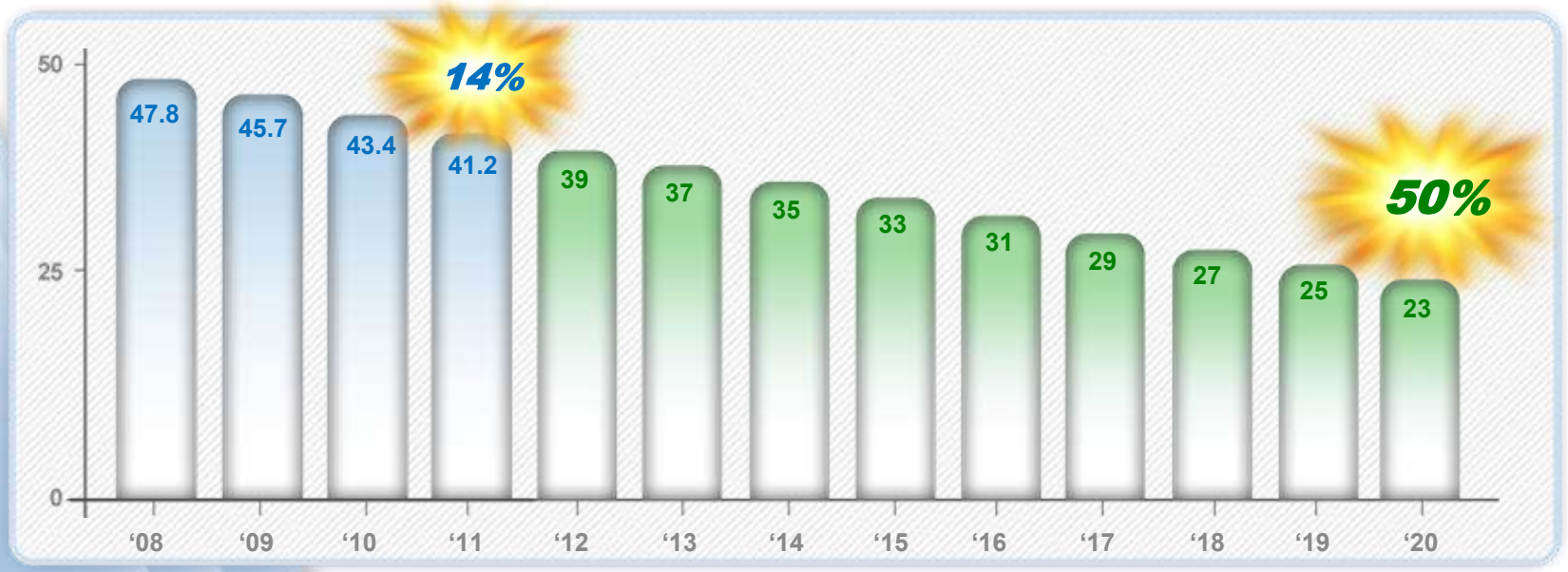
2008

2010

2012

2020



Electric Box Trucks…

Largest All-Electric Commercial Fleet in North America with 280 Vehicles by the End of 2012

Natural Gas Tractors…

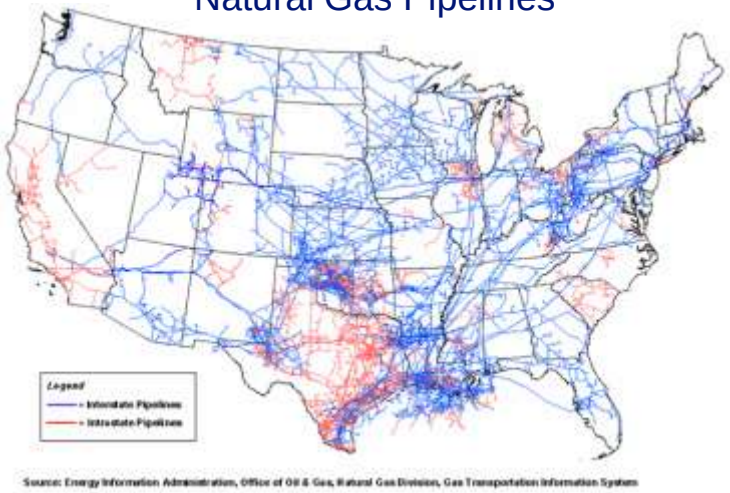
2012 added 83 New Tractors to our Fleet. Saved the company about 1,100,000 Gallons of Diesel Fuel Annually

Reduces greenhouse emissions by **23%** when compared against diesel

Why CNG ?
North American Fuel

Natural Gas Production

Natural Gas Pipelines

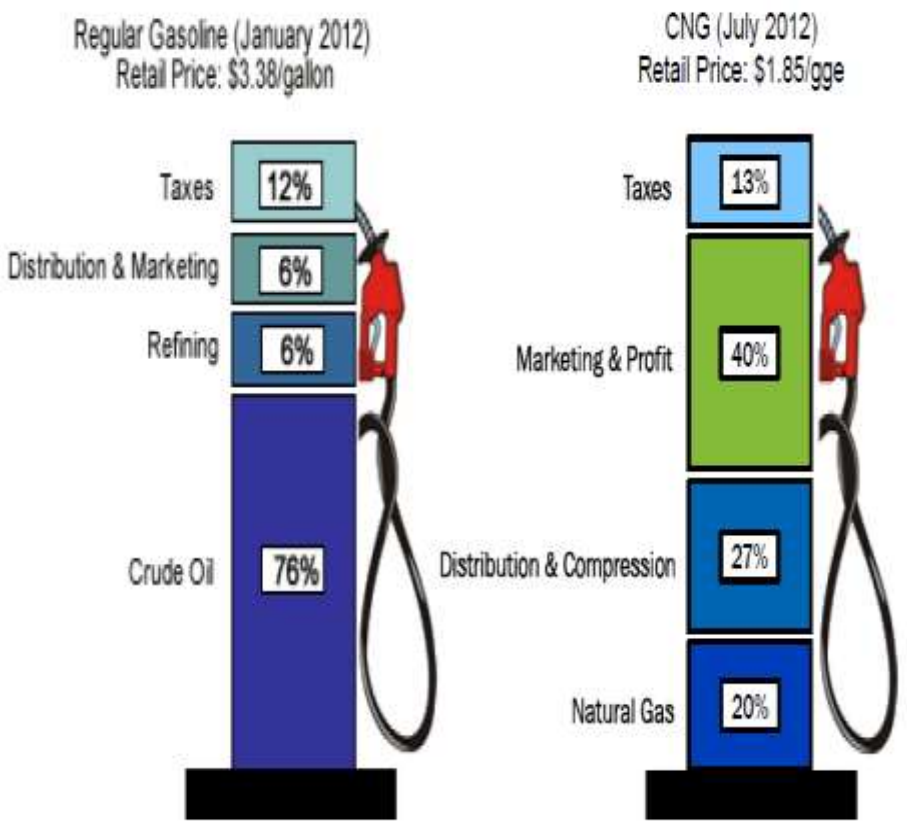


NATURAL GAS AS A FUEL SOURCE

- Natural gas is a readily available fuel, with over 98% coming from North America.
- The energy availability from known sources provides more than 150 years of available energy supply.
- There are approximately 1.5 million miles of gas pipelines in the US with service to virtually every street and community.

WHY CNG?

- **Natural Gas is CLEAN**
  - Mostly methane, only one carbon atom
  - Reduces GHG by 21-27%
  - Reduces particulate matter by up to 95%
- **Natural Gas is SAFE**
  - Higher ignition temperature than diesel or gasoline (1000 – 1100 degrees F)
  - Narrow range of oxygen/fuel combustion ratio (5-15%)
  - Highly engineered tanks and components
- **Natural Gas is POWERFUL**
  - Octane rating of ~130
  - HD natural gas engines have equivalent torque and horsepower to diesel counterparts
- **Natural Gas is QUIET**
  - HD engine DB level 80-90% lower than diesel

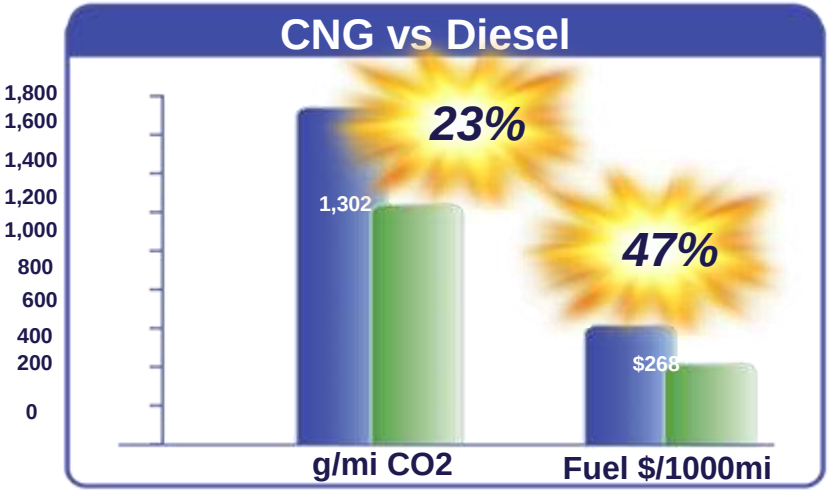


WHY CNG?

- Abundant & domestic fuel
- Fuel savings - ~ $2.20/gallon
- Clean, less CO2 and other emissions

Future:

- Opportunity to run biogas = Zero GHG
- Potential future tax credits on fuel and tractor



Fully Capable Tractor for Us

- 9L 320 hp 1000 lb-ft, automatic trans.
- 75 – 169 gallon fuel
- 300 – 700+ mi range
- SA & TA
- 4 OEs in production

- 12L 420hp engine due in 2013

CNG Operation - Key Considerations

When Scoping CNG, We Must Solve For:

- Tractors – Range & Load
- Change Mgmt & Implementation
- Garage/Maintenance
- Training

- FUEL!

We currently face a classic “Chicken-And-Egg” challenge that we hope to break through with an innovative partnership approach with fuel providers.

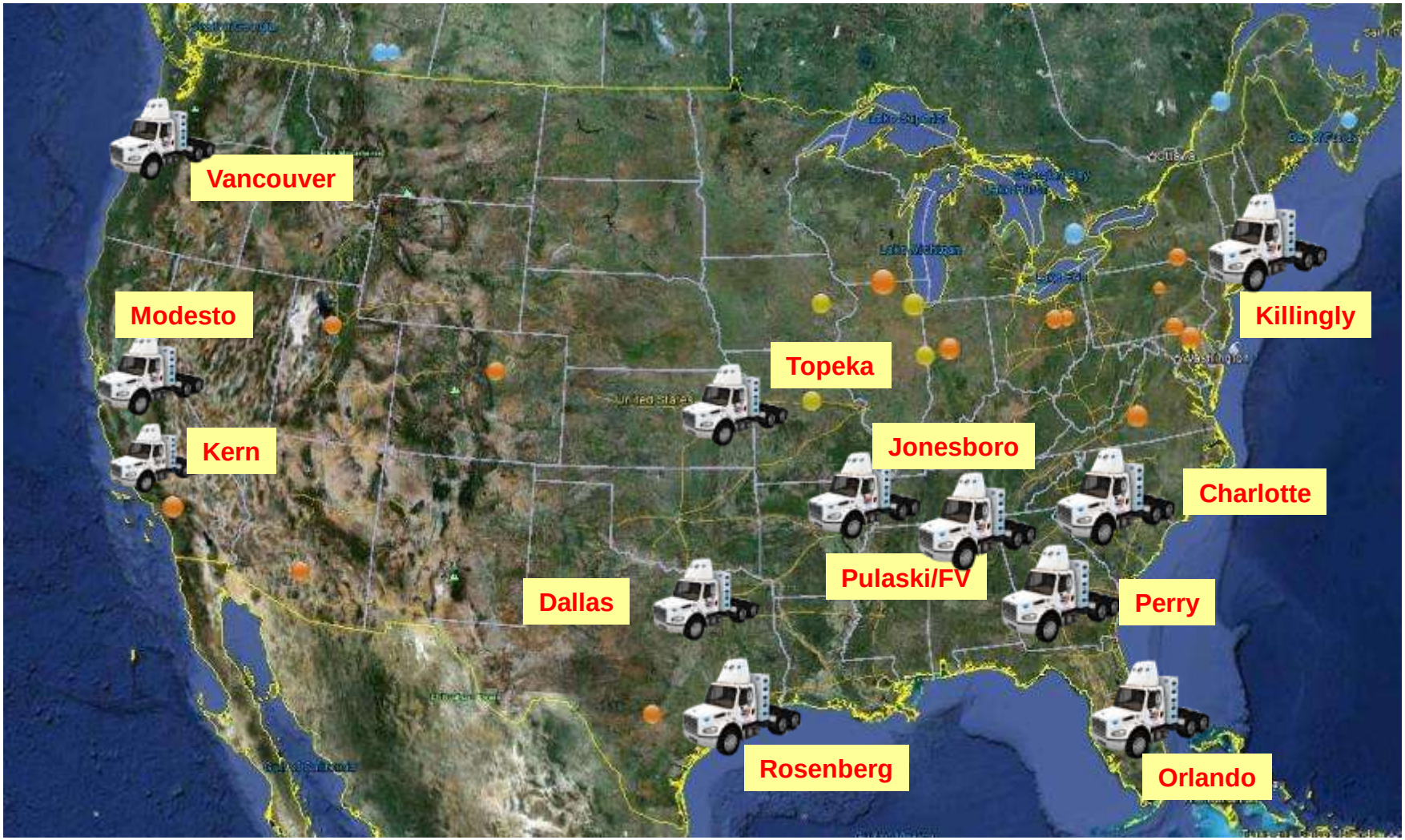
➢The *National Fuel RFP* will offer up our base volume commitment for station construction in exchange for aggressive pricing and preferred location.

RFP Outline

- Competitive Process based on “anchor tenant” arrangement
- Prioritized Tier 1 and 2 sites based on scale & business need

- Key components:
  - Base fuel volume commitment
  - Performance
  - Schedule – Specific startup

Sites Considered for RFP



Beloit, Wisconsin
Frito-Lay owned CNG station

Garage Capability

Must Invest in garage capability to maintain CNG assets

- **Building safety/NFPA**
- **Training**
- **Tools**

General NFPA & FMG Requirements

- Methane detection
- Indirect heating sources
- Adequate ventilation
- Dropped ceiling or no electrical <18” below ceiling level
- Low-temperature lighting
- No spark sources (motors, relays, etc) in air handling equipment or near ceiling.
- In some cases automatic door openers may be required – tie into detection system.

Exact Scope will be determined upon a detailed site review

2013-on Future CNG Site Approach

- Target 100 CNG Units in 2013.
- Add units at existing locations with “optimized” fuel.
- Go to 4-5 new sites each year
- Prioritize largest sites – SCALE - bigger bang for the buck, lower risk
- Factor in business changes as needed
- Garage Investment/External MX support

- Annual Fuel Partner RFP will include prioritized site list
  - Non-optimized current sites
  - New Sites without fuel
  - Real Estate Purchase Option

2013 CNG Tractors will make up 20% of our Fleet

FritoLay Fundamentals
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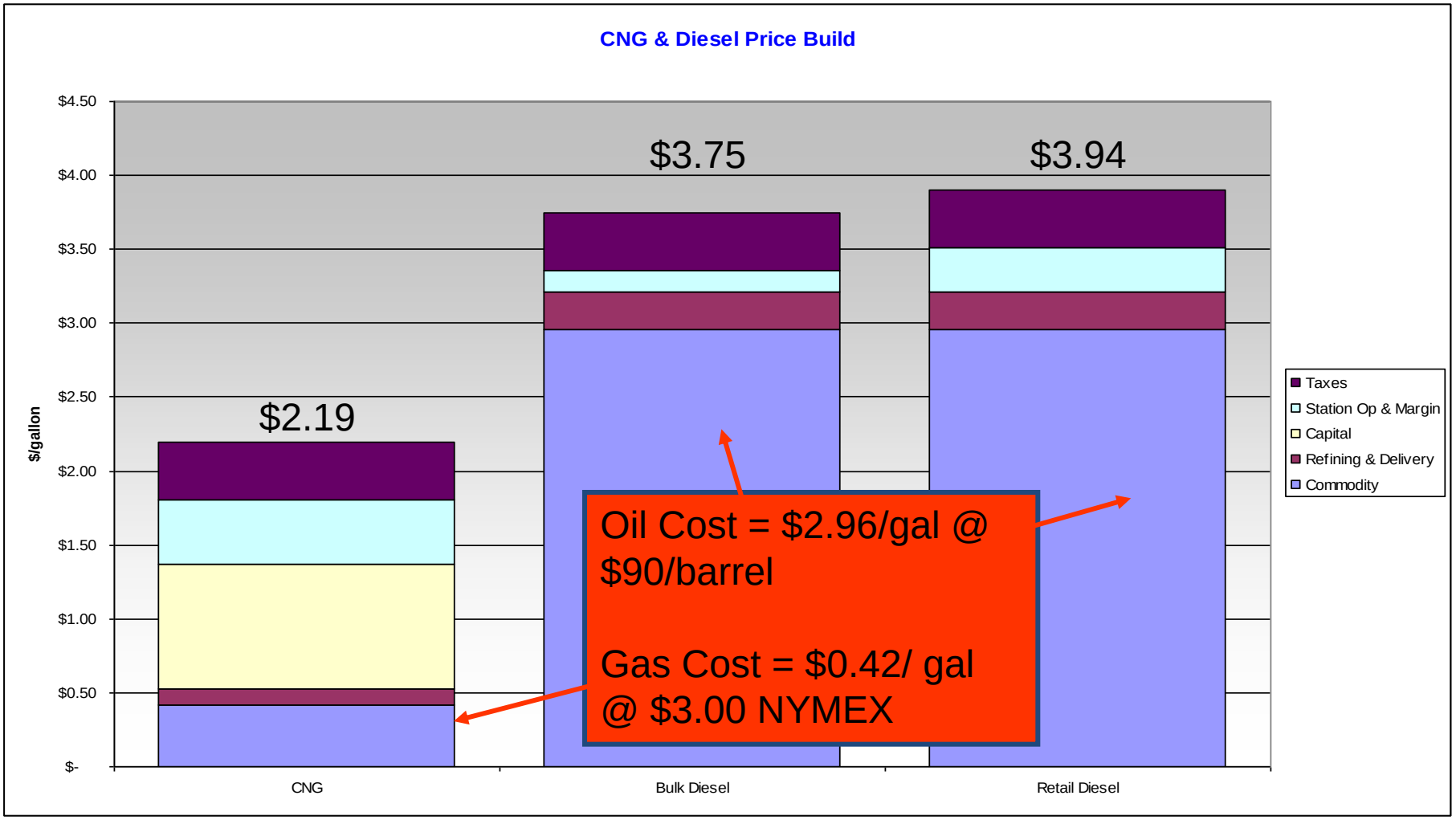
CNG is quickly becoming a reality in our fleet!

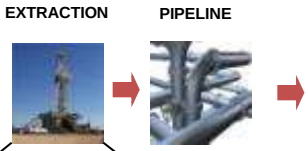
Thank You!!

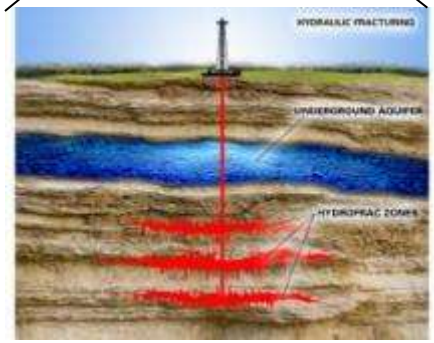
Appendix

CNG VS Diesel Price Build



Natural Gas Supply Chain





The drilling and hydraulic fracturing industry is heavily regulated and best practices are used by drillers minimize environmental impact on:
-Water usage
-Fluid disposal and recycling
-Drinking water contamination
-Gas leakage

(An extensive network of piping already exists to transport natural gas from the source to use points

<u>Commercial Station Design</u>
-Public
-Pricing
-Pressure & Flow
-Pavement
-Proximity

<u>CNG Energy Basics</u>
1 gallon diesel = 139,000 BTU
= X cubic ft NG (show visual) not under pressure
= Y cubic feet (show visual) under pressure
= 1 Diesel Gallon Equivalent (DGE)

CNG Safety

- Natural gas vehicles are a safe alternative with a proven track record.
- CNG is about as flammable as diesel fuel. CNG gas poses a danger of ignition only when present in a 5% to 15% concentration.
- CNG will not pool when spilled, which reduces the probability of a fire if the tank is breached.
- Natural Gas presents an asphyxiation hazard at concentrations exceeding 21%.

Methane Gas Detection – under hood and in cab

CNG Tank Safety

- **Twenty-Year Tank Design - Design and Construction is Heavily Regulated**

- **All CNG Vehicle Fuel Containers MUST meet the federal government's FMVSS 304 (49 CFR 571.304), *Compressed Natural Gas Fuel Container Integrity*.**

Tank Testing Procedures:

- **Drop/Crash Testing**
- **Bonfire Testing**
- **Dynamite Testing**
- **Gunfire Testing – Armor Piercing Rifle Bullets**
- **Hydraulic Crush Tests**
- **Acid/Corrosion Tests**

- **Pressure Relief Valve is designed to safely vent tank in case of overpressurization, impact, or fire.**

- **Google "CNG Tank Testing" – Numerous Web Sites and You Tube Videos**
- **SUMMARY: NATURAL GAS IS AS SAFE, OR SAFER, THAN DIESEL AND GASOLINE**